

W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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January 15, 1997

RF Safety Questions Gets July Go Ahead

SUMMARY: In adopting new RF Exposure guidelines, the FCC required additional RF Safety questions to be immediately added to the Novice, Technician and General Class Question Pools. To coincide with the VECs review schedule, the ARRL requested that the Element 2 and 3(A) RF Safety questions be added on July 1, 1997 and the 3(B) questions be included as of July 1, 1998. On December 1, 1996, the Question Pool Committee released revised questions for Element 2 and 3A which are to be included in examinations administered after July 1, 1997. On December 24th the FCC issued an order which goes along with the ARRL's motion to change the immediate RF Safety questions implementation date to July 1, 1997 and July 1, 1998 to coincide with the QPC's work schedule. Here is the complete story.

On August 1st, the FCC's Office of Engineering and Technology (OET) dropped a bombshell on the VEC's Question Pool Committee. It is the QPC's job to update and revise all of the questions used in Amateur Service license examinations. Your VEC, Fred Maia, W5YI is Vice Chairman of the QPC. The other members are Ray Adams, W4CPA (Chairman) and Bart Jahnke, W9JJ and Scotty Neustadter, W4WW. Ray heads up WCARS-VEC, Bart oversees the ARRL/VEC and Scotty is with CAVEC.

What happened last August was that the FCC adopted new *Maximum Permissible Exposure* (MPE) standards to better protect the public and workers from exposure to potentially harmful RF fields. The FCC is required by the National Environmental Policy Act of 1969 (NEPA) to evaluate the effects of their actions on the quality of the human

environment. Completion of the new guidelines were actually ordered by Congress as part of the massive Telecom Act signed into law by President Clinton on February 8, 1996.

OET actually had been working on new RF standards since April 8, 1993 when they issued a Notice of Proposed Rulemaking proposing to base their RF safety regulations on the ANSI/IEEE C95.1-1992 standard instead of the 1982 ANSI standard. They also mentioned the slightly different RF exposure criteria of the National Council on Radiation Protection and Measurements (NCRP) and those of the International Radiation Protection Association (IRPA). Now Congress was requiring the FCC to complete the new "...rules regarding the environmental effects of radio frequency emissions from FCC-regulated transmitters" within six months. It went right down to the wire and OET beat the deadline by less than a week.

The New RF Safety Standards

In 1985, the Commission adopted a 1982 ANSI standard for use in evaluating the effects of RF radiation on the environment. At that time, all Amateur Service facilities were "categorically excluded" from RF exposure evaluation when the FCC concluded that they would not normally cause exposures in excess of the 1982 lines.

In 1992, ANSI adopted a new standard for RF

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exposure, designated ANSI/IEEE C95.1-1992 to replace its 1982 standard. The 1992 ANSI/IEEE standard is more restrictive in the amount of environmental RF exposure permitted and extends the frequency range under consideration to cover all frequencies from 3 kHz to 300 GHz ...every frequency band used by the Amateur Service.

No one knew what which version of the new RF exposure guidelines would be adopted, its impact on the Amateur Service or its effective date. On August 1st we found out. Amateur Radio transmitters were included for the first time. No longer would they be "categorically excluded."

The new guidelines provide for two levels of exposure limits. One "controlled" level applies to people who are aware of the potential for RF exposure. The other "uncontrolled" level applied to the general public who have no knowledge or control over their exposure. Since Amateur Radio transmissions impact both the ham operator who can exercise control over transmitted RF and their neighbors who cannot, Amateur Radio transmissions were ruled to be in both controlled and uncontrolled environments. The American Radio Relay League opposed use of the higher safety factor but the FCC approved it after determining that some Amateur Radio installations could exceed the 1992 ANSI/IEEE standard.

Impact on VE/VEC Program

The FCC released its new "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation" on August 1st and surprisingly said they would be effective at once! The new standards were based on a combination of both the ANSI/IEEE and NCRP guidelines which recommend two time-averaged exposure tiers. The NCRP MPE limits are generally more stringent than the ANSI/IEEE limits below 3 MHz and above 1500 MHz.

On August 6th, the FCC's Wireless Telecommunications Bureau revised the Part 97 Rules with an immediate effective date to require:

AMATEUR SERVICE RF SAFETY REQUIREMENTS

- An RF radiation evaluation when the transmitter power exceeds 50 watts peak envelope power (§97.13(c);
- Steps must be taken if the RF radiation is in excess of the limits to prevent such an occurrence (§97.13(c);
- A tenth new license examination topic entitled "Radiofrequency environmental safety practices at an amateur station" was added to Element 2 (Novice), 3A (Technician) and 3B (General) written examinations (§97.503(c);
- Element 2 would now have 35 questions with a pass rate of 26 questions answered correctly; Element 3A and 3B each will consist of 30 questions - passing is 22 answered correctly; and
- Five RF Safety questions must be asked from each Element 2, 3A and 3B question pool (§97.503(c)(10).

ARRL Files Emergency Motion

On August 12th, the ARRL filed an "Emergency Motion for Extension of Effective Date of Rules" with the Federal Communications Commission. The League explained the question pool revision system to the FCC and pointed out that according to the new guidelines:

- RF Safety questions had to be added to the question pools and used in examinations after August 7th which was an impossibility since it would take considerable time to develop the questions;
- The public does not expect new Element 2 and 3A questions until July 1997 and newly revised Element 3B questions until July 1998.
- There would be a substantial cost to replace the examinations and software at hundreds of exam sites.
- A reasonable time must be afforded to develop new question pools. "The vast majority of the individuals doing examination preparation and administration, at all levels, are volunteers. ...In all fairness to these volunteers, a reasonable time must be afforded them to prepare for introduction of these new guidelines into the examination process. ...This takes more than zero preparation time that the Commission has afforded, with absolutely no advance notice whatsoever."
- The ARRL asked the FCC to extend implementation of the new Element 2 and 3A rules until July 1, 1997 and Element 3B until July 1, 1998.

Question Pool Committee Action

A new syllabus (outline) for Element 2 and 3A was developed in February 1996 and the QPC began actively working on revising the Novice and Technician questions in July. On August 1st, the QPC was advised of the need for additional RF safety questions to be included in not only Element 2 and 3A ...but Element 3B as well.

Since Part 97 had already been amended to include the new RF Safety requirement, the QPC felt that it had no alternative but to go ahead and develop a new syllabus for the RF Safety topic and Novice and Technician questions. The QPC's hope was that the FCC would go along with the League's request for an extension of the implementation date to July 1, 1997 on Element 2 and 3A ...and July 1, 1998 on Element 3B.

On December 1, 1996, the QPC released new Element 2 (Novice) and 3A (Technician) question pools. (Copies are available from the W5YI Group, P.O. Box 565101, Dallas, TX 75356 at \$5 each postpaid.) Due to the inclusion of 176 new RF Safety (and other) questions, the Novice and Technician pools are substantially larger than previously was the case. As mentioned in our December 15th Report, there are 924 questions in the new combined Novice and Technician Class pools, 46% more than the 632 questions in the previous (1993) pools.

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RF Safety Question Schedule

The FCC distributes a daily online recap of News Releases. The Daily Digest of December 24th mentioned the following Public Notice:

Report No. DC 96-112

ACTION IN DOCKET CASE

FCC EXTENDS TRANSITION PERIOD FOR DETERMINING COMPLIANCE WITH NEW REQUIREMENTS FOR EVALUATING THE ENVIRONMENTAL EFFECTS OF RF ELECTROMAGNETIC FIELDS FROM FCC-REGULATED TRANSMITTERS.

December 23, 1996

(ET DOCKET NO. 93-62)

The Commission has amended its rules to extend the transition period for applicants and station licensees to determine compliance with the new requirements for evaluating the environmental effects of radiofrequency (RF) electromagnetic fields from FCC-regulated transmitters.

In 1985, the Commission adopted rules for evaluating the environmental effects of RF electromagnetic fields produced by FCC-regulated transmitters. In August 1996, the Commission amended those rules by provided for the use of new guidelines and methods, and established a transition period, until January 1, 1997, for applicants and stations to come into compliance with the new requirements.

The American Radio Relay League, Inc., Ameritech Mobile Communications, Inc., AT&T Wireless Services, Inc., BellSouth Corporation, Paging Network, Inc., the Personal Communications Industry Association and U S West filed petitions asking the Commission to extend the transition period beyond January 1, 1997, arguing that the existing transition period failed to provide adequate time for affected parties to achieve compliance with the new rules.

The Commission stated that, based on the petitions and comments, it is clear that most station applicants will need additional time to determine that they comply with the new requirements. The Commission noted that an extension of the transition period would: 1) eliminate the need for the filing and granting of individual waiver requests; 2) allow time for applicants and licensees to review the results of the decisions that will be taken in the near future addressing other issues raised in petitions; and 3) permit applicants to review a revised information bulletin and make the necessary measurements or calculations to determine that they are in compliance.

The Commission indicated that it did not concur with petitioners who suggest that granting any extension of the transition period will have significant adverse effects on public health.

Therefore, the Commission has extended the transition period to September 1, 1997, for most radio services. **For the Amateur Radio Service, the transition period has been extended to January 1, 1998. Additionally, the Commission will allow changes to amateur radio operator license examinations to be made as the examinations are routinely revised between now and July 1, 1998. (Emphasis added.)**

The Commission believes that these extensions are necessary so that applicants and licensees will have adequate time to understand the new requirements and to ensure that

their facilities are in compliance with them.

Action by the Commission December 23, 1996, by First Memorandum Opinion and Order (FCC 96-487). Chairman Hundt, Commissioners Quello, Ness, and Chong.

-FCC-

News Media contact: Patricia A. Chew at (202) 418-0500.
Office of Engineering and Technology contact: Rick Engelman at (202) 418-2445 and Robert Cleveland (202) 418-2422.

The FCC has now agreed to go along with the ARRL's request that the RF Safety questions for Element 2 and 3A be made effective July 1, 1997 and the Element 3B questions be added on July 1, 1998. Part 97 will again have to be amended by the Wireless Telecommunications Bureau since (at this writing) Section §97.503(b)(3) still requires immediate implementation of all RF Safety questions including those in Element 3B. The Question Pool Committee is already working on a revised syllabus (outline) for Element 3(B) which will be released on February 1, 1997.

On July 1, 1997, Element 2 and 3(A) will have five more questions. (Increased from 30 to 35). Element 3(B), however, will not be increased from 25 to 30 questions until July 1, 1998.

Even though the RF Safety questions will begin showing up in examinations administered after July 1, 1997, the FCC does not require radioamateurs to complete the actual RF radiation evaluation until January 1, 1998.

The New RF Safety Questions

The new RF Safety questions are intended to more or less provide a curriculum for Amateur Radio license training classes ...or self training. The new rules, of course, apply to all amateurs. We are told that the FCC's Office of Engineering and Technology is now working on a new RF Safety booklet specifically aimed at radio amateur operations. This booklet could supplement Part 97 rules and be used by amateurs to certify compliance with the RF exposure safety guidelines.

Most amateur operators do not possess the needed measurement equipment, technical skills, and/or financial resources to properly conduct an RF radiation evaluation. Therefore, the FCC is permitting the evaluation to be conducted based on computer modeling of a worst case scenario. This involves using a computer program or a tabular chart to determine how far an amateur station with certain specified operating characteristics should be from the controlled or uncontrolled environment.

Effective January 1, 1998, applicants for new licenses and renewals also will be required to certify on a new version of the FCC Form 610 application that they have read and understand the FCC's rules regarding RF exposure.

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Amateur Hit With \$6,000 Fine

On December 24th, the FCC's Compliance and Information Bureau (formerly known as the Field Operations Bureau) issued a forfeiture order in the amount of \$6,000 against Timothy Harold Hoffman of Phoenix, Arizona.

According to the Order, the fine was assessed for "...operation of a radio transmitter on Amateur Radio frequencies without a valid license, failure to allow inspection of the radio station by authorized FCC personnel, willful and malicious interference to radio communications of licensed stations, and operation on CB channel 36 (27.365 MHz, lower-sideband) to transmit one-way communications and material to amuse or entertain."

On May 14, 1995, Hoffman was found by agents of the Douglas (Arizona) Field Office to be retransmitting amateur radio repeater (147.24 MHz) signals on CB channel 36. Using mobile direction finding equipment, FCC engineers determined that the signals were coming from his Phoenix residence. The following day, FCC engineers detected 2-meter (146.34 MHz) signals coming from the same residence. The operator making the transmission used the Amateur Radio Service call sign of N7ZZT; a call sign issued to another Phoenix ham operator residing at a different address.

After positive direction finding results indicated the transmissions were being made from Hoffman's home, an attempt was made by FCC agents to inspect the radio installation. An adult male who came to the door admitted being Timothy Hoffman but would not confirm or deny the radio operation. He also refused to allow a radio station inspection by FCC agents as required by law. Further transmissions from the residence stopped immediately after the attempted inspection.

On June 26, 1995, a Notice of Violation was issued to Mr. Hoffman. On July 5, 1995, Hoffman admitted that he was responsible for the violations. On Sept. 6, 1996, the FCC proposed a \$6,000 "forfeiture" (fine). By letter dated October 1, 1996, Hoffman requested a reduction or elimination of the fine "...due to child support payments, tax liens, and a garnishment of wages..."

The FCC said "We have carefully evaluated the information submitted by Mr. Hoffman... [and] determined that the garnishment information is the only objective evidence submitted by Mr. Hoffman that reflects that he is making current payments to meet financial obligations. After weighing this garnishment against Mr. Hoffman's documented income, we have concluded that he has failed to adequately document his claim of inability to pay." The FCC ruled that the \$6,000 fine would remain as previously assessed.

Hoffman was ordered to pay the full \$6,000 amount by check or credit card for willful and repeated violations within 30 days (by January 24, 1997) to the FCC at a Chicago post office box. "Requests for installment plans should be mailed to [the FCC in Washington, D.C.)"

Committee says "Keep the Code"

A year ago, the ARRL adopted a resolution at their January 1996 Annual Board of Directors Meeting in Savannah, GA calling for the appointment of a fact-finding committee made up of ARRL leaders and members. The goal of the committee was to determine how the League membership felt about various issues facing Amateur Radio ...especially those on the 1999 WRC agenda.

The resolution acknowledged that various schemes for simplification of the Amateur Service licensing structure were being discussed in the Amateur community "...including ...the requirement to demonstrate Morse code ability in order to operate below 30 MHz..."

The Board said at that time "...it recognizes that it is essential for the League to solicit input on these issues from the broad range of its membership and to develop policies that will insure the future health and growth of Amateur Radio." The committee's final report was to be sent to the Board by December 17, 1996.

After completing a survey of ARRL members, the committee submitted its final report to the ARRL Board the week of December 16. The special committee created by the ARRL to study issues relating to the 1999 World Radiocommunication Conference (WRC-99) has recommended that the ARRL Board of Directors NOT support changing the treaty requirement for Morse code testing to operate below 30 MHz.

The committee report contains recommended ARRL positions regarding possible changes in Article S25 of the international Radio Regulations. Consistent with the results of a survey of ARRL members, the committee recommended "...no change in the existing treaty obligation that administrations test prospective amateur licensees on their Morse code ability before authorizing them to operate below 30 MHz."

The ARRL membership survey and committee report conflicts, however, with the conclusions of an international (IARU) committee established for the same purpose. The Future of Amateur Service Committee (FASC) concluded that the international law that requires amateurs to be Morse proficient when operating on HF should indeed be removed as a treaty requirement. The FASC pointed out that it was dealing with guidelines that will govern the Amateur Service in the next century and that the international Amateur telegraphy issue is already on the WRC-99 agenda. The feeling among the FASC was that it will be years or decades before the matter can be addressed again.

The FASC consists of seven members from five different countries. No country has more than one member - except the U.S. which has three. The three are all ARRL officials; are ex-ARRL president Larry Price W4RA, Dick Baldwin W1RU ex-League Manager and Dave Sumner K1ZZ, the current ARRL Executive VP.

The ARRL committee did support changes to Article

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S25 that would: eliminate the so-called "banned countries" list; establish that providing communications in the event of natural disasters is a normal and desirable part of the international service provided by radio amateurs; reduce restrictions on international communications on behalf of third parties; and aid in the establishment of an "International Amateur Permit." The committee report also responded to the Board's request that it study possible changes to the amateur licensing structure in the United States. The committee offered some proposals for change, but recommended that the Board take no action on this part of its report until the committee's proposals are shared with the membership and there is an opportunity for member comment.

The Board will consider the committee's report and recommendations at its next regular meeting, January 17-18, 1997. If the Board accepts the report, it will be available for public release. An article giving the results of the survey will appear in February 1997 QST.

It will be interesting to see how the Board reacts to the its committee report...especially when the FASC is already on record as supporting abolishing the Morse code requirement for HF operation.

Ex-"73 Magazine" Editor is Dead

[The following eulogy was written by Dave Cassidy N1GPH, Ex Associate Publisher of 73 Amateur Radio Today Magazine.]

Hope Currier, long-time 73 Magazine editor (over 15 years) died on Christmas eve at her home in New Hampshire. Although not a ham herself, through her excellent work over so many years for what was once the best ham magazine, Hope had an influence on an entire generation of amateur radio.

As Associate Publisher, I was Hope's "boss" from 1990 through 1994. I made her "managing editor," which essentially made her the "second in command" of the magazine. In my too-short time with Hope, she made me a better boss as well as a better editor and publisher. In my entire career, I have never met another editor who even comes close to Hope.

In addition to being a consummate publishing professional, Hope was also something that is rare in this day: a decent human being. Hope was a private person who did not easily share her personal life with working associates, but she was always ready to lend an ear to others' personal problems. In her office, she kept an extra chair which she labeled "The Therapy Chair." I cannot count the number of times I used Hope's "Therapy Chair" to rant and rave about something... with Hope listening patiently and offering good council.

In the great scheme of things, Hope's passing at such a young age will probably not make a large wave. I did not want her passing to go unnoticed in this small world where she spent many years of her life. Those of us who knew her will miss her very much, and the world is a lesser place without her in it.

AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of January 1997:

Radio District	Group A Extra	Group B Advanced	Group C Tech/Gen.	Group D Novice
0 (*)	AB0DT	KI0FY	(***)	KB0ZHK
1 (*)	AA1RJ	KE1GR	N1YJB	KB1CBC
2 (*)	AB2CX	KG2JS	(***)	KC2AON
3 (*)	AA3PE	KE3YM	N3YNL	KB3BRK
4 (*)	AE4ZS	KT4ZZ	(***)	KF4OEE
5 (*)	AC5KZ	KM5FU	(***)	KC5YKV
6 (*)	AC6ZG	KQ6MB	(***)	KF6IEQ
7 (*)	AB7TO	KK7EA	(***)	KC7UAF
8 (*)	AA8YW	KI8AH	(***)	KC8FSI
9 (*)	AA9TT	KG9IU	(***)	KB9PHC
N. Mariana	NH0A	AH0AW	KH0FS	WH0ABF
Guam	WH2Z	AH2DC	KH2RA	WH2ANR
Johnston Is.	AH3D	AH3AD	KH3AO	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii	AH7T	AH6OX	KH7CI	WH6DCW
Amer. Samoa	AH8O	AH8AH	KH8DX	WH8ABF
Alaska	(**)	AL7QT	KL0CP	WL7CTY
Virgin Is.	WP2Z	KP2CJ	NP2JO	WP2AIH
Puerto Rico	KP3Z	KP3AO	NP3JA	WP4NMT

* = All 1-by-2 & 2-by-1 call signs have been assigned.

** = All 2-by-1 call signs have been assigned.

*** = All Group "C" (N-by-3) call signs are now allocated.

New prefix numerals are now being assigned in Puerto Rico (KP3/NP3), Hawaii (AH7/KH7) and Alaska (KL0)

[Source: FCC Amateur Service Database, Washington, D.C.]

NEW AND UPGRADING AMATEUR STATISTICS FOR THE MONTH OF DECEMBER 1996

Amateur License Class	New Amateurs 1996	Upgrading Amateurs 1996	Total Amateurs 1996
Novice	72	0	72
Technician	1816	1	1817
Tech Plus	180	350	530
General	39	364	403
Advanced	6	270	276
Extra Class	9	221	230
Club	56	0	56
Total:	2178	1206	3384

WHO WAS "FARNSWORTH" - Donald R. (Russ) Farnsworth, a blind amateur was first licensed in the 1930's as W9SUV and also held W6TTB and W0JYC. A code instructor during WWII, Russ' method of telegraphy instruction was to maintain a constant 13 wpm spacing throughout his Epsilon 33 1/3- rpm code training record albums. He gradually decreased the time between the characters as code speed proficiency increased. The Farnsworth system is recognized as the best way to learn the code.

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EMERGING TECHNOLOGY

■ **PCs for people who can't afford them! Look for the neighborhood library to take on a new look.** Instead of just books on a shelf, they will evolve to community information providers. People who have PCs and Internet access are able to get any needed research information. Libraries will provide Internet access for on-premise use.

And more books will be available in digital form. Result will be smaller libraries that look like classrooms. And a few large libraries will have their electronic books on line for instant downloading or multi-user reading by any PC in the world.

Ninety percent of the world's spare time computing power is available for other people to use but currently inaccessible. That will change. **A new technology called "Metacomputing" will permit you, schools, libraries and entrepreneurs to rent PCs and application software to others** over the Internet when it is not being used ...such as at night. Users will only need a simple (and inexpensive) keyboard terminal. Your PC will simply hang a "For Rent" sign out on the Internet.

■ **For a small additional fee, telephone customers in California and New York** will shortly have the option of listing their e-mail and web-page address alongside their phone number.

Telephone use and installation of second lines is skyrocketing! In the ten year period between 1982 and 1991, thirteen new area codes had to be added. Seventy-six were added in the four years between 1992 and 1996! And at least another sixty more will have to be added by 2001.

While telephones are a fact of life in the U.S., most people in developing countries have never owned one. There are 51 telephones for every 100 people in industrialized nations; only four for every 100 in the developing world.

COMPUTER INFO

■ **Hayes computer modems used to be the industry standard.** Dennis C. Hayes went bankrupt when competition (such as U.S. Robotics) came up with new technology and better products. But they

are making a comeback. Hayes has just introduced a new \$199 "Talk N Fax" modem/software package that allows simultaneous voice and data traffic over the same line. Can simultaneous voice telephone and Internet access be far away!

■ **Faster 56K digital modems will be available this Spring** for around \$200 - twice today's top speed and almost as fast as ISDN service. But unless your service provider installs digital equipment, the 56K units operate at normal analog speeds. To make matters worse, there are two incompatible systems ...one by U.S. Robotics and another by Lucent Technologies (AT&T.) Best wait for a clear standard to develop.

■ **New satellite-based global positioning navigation technology** not only allows drivers to find their location (to within 33 feet) on a dashboard map, but sends out distress signals in case of an emergency, receives local traffic information, computes mileage and even pays tolls automatically.

■ 1997 is supposed to be the year when **the battle for low-priced Internet access really heats up.** All sorts of initiatives will hit dealer shelves including the much heralded NC (Oracle's Network Computer), the NetPC (a Wintel-based, diskless and slotless PC), Sun's Java Station and the IBM Network Station (powered by a PowerPC chip and Netscape Navigator 3.0.) Lower priced (\$500 to \$1,000) Internet and application delivery "boxes" could be the fourth wave of computing, after mainframes, minicomputers, and PCs. Each successive generation costs less and is smaller.

And WebTV, PC/TV, TV Online, Web-I and NetChannel plan Internet surfing from your sofa. But analog television screen resolution will be a problem ...at least until HDTV digital arrives. (320x200 pixel resolution can't compete with VGA.)

■ **We keep hearing that PCs did not sell as well as anticipated** this past fall and Christmas. But it is probably just a case of more competition than a year ago. Last year Packard-Bell accounted for 47% of all desktop computers sold through retailers. Its share is now down to 39%. Deep-pocketed Japanese companies with worldwide brand recognition such as Sony, Fujitsu, Hitachi and Toshiba all launched home PCs for the first time. Packard-Bell is now owned by NEC. Tandy appears to be getting out of the highly competitive elec-

tronic home entertainment and PC business. They are closing all of their McDuff and Incredible Universe stores and slimming down Computer City. Wal-Mart will stop carrying PCs in 20% of its stores next year.

■ Thanks to a last minute concession by the broadcast television industry, the new age of television arrived at Christmas time as **the FCC formally signed off on a new national digital standard for TV.**

TV broadcasters wanted to keep the present interlaced scanning technology, the computer industry wanted a non-interlaced method such as now used in PC monitors. The final compromise was to shift that decision to the marketplace and consumers rather than the FCC. In other words, no video format is specified.

Computer makers are already forecasting that PCs will join TVs on the receiving end of television. The new HDTVs, with super crisp pictures and CD-quality sound should arrive in the marketplace late this year (or early next) ...priced between \$2500 and \$3000. The screen size will be one-third wider to accommodate film makers.

The FCC still must allocate digital spectrum for the new service. The plan is to give TV broadcasters alternate spectrum for digital broadcasting and when the transition is complete by 2005, the old analog spectrum will be auctioned to raise an estimated \$17 billion.

■ **A number of PC makers are getting into the "pre-owned" computer business.** Packard-Bell, Hewlett-Packard, Compaq Computer, Dell and Gateway all have opened outlet stores near their manufacturing facilities!

■ Nice work if you can get it! **Apple Computer paid its new CEO nearly \$3 million** for 8 months on the job! Gilbert Amelio joined the struggling PC maker last February when Apple was losing money. Apple reported a profit in its fourth quarter (although some of the profit was reclaimed from a \$207 million restructuring charge taken earlier in the year.)

It appears that co-founder Steve Jobs is back at Apple ...although he is officially listed as an "adviser." Amelio announced the purchase by Apple of Job's software company "Next, Inc." for \$400 million. Apple will use Job's Next operating system in its next-generation of Macintosh PCs. Jobs also heads up Pixar, the company that made the smash hit movie, "Toy Story."

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INTERNET NEWS

■ **Be on the alert for the "Active Desktop" from Microsoft.** Its coming this year! It will resemble more of a television tuner than the familiar batch of icons and folders. Computer "channels" will be used to receive news, sports, weather and entertainment. Microsoft controls the computer desktop with its Windows operating system. It now wants to be the point of entry into the digital merchandising and programming world. Several PC makers report that new Microsoft contracts require that Microsoft's "active desktop" screen must come up first as a prerequisite to using Windows. Competitors say Microsoft continues to illegally use its strength in operating systems to push other products and concepts. The new "active desktop" could give some Microsoft ventures ...such as its alliance with NBC - a decided advantage.

■ **Netscape has been named as the web browser of choice** by five Regional Bell Operating Companies (RBOCs). This gives Netscape access to 72 million consumers in 26 states. Netscape share rose 5% on the news. Rival Microsoft has signed big Internet-access contracts with AT&T, MCI and NetCom.

Meanwhile, a Justice Dept. anti-trust investigation continues into Microsoft's alleged anti-competitive practice of giving away web-software that competes with Netscape's World Wide Web browser.

■ **AOL cleans up its books!** In a nutshell, **American Online has changed its accounting system and wiped out all of its profit** (which really didn't exist anyway!) Up until November, AOL postponed its promotion expenses over two years ...until freeloading newcomers could become paying subscribers.

AOL has now taken a \$385 million "special charge" for deferred promotion costs. Instead of a 17¢ profit, AOL lost \$3.80 per share in its latest quarter. Basically, the charge means that it is now paying the \$55 cost of acquiring each of its 7 million subscribers. Seems high to us!

■ **Local telephone companies continue to lobby the FCC to lift the Internet exemption** arguing that Net surfers should pay for the strain they place on the public switched telephone network (PSTN). Internet pricing has shifted to un-

limited access for a flat fee. It could come to an end. Some "broadcast style" data service users often leave their computers connected for hours at a time - for the price of a single local call. The Baby Bells want between an 80¢ and \$1.20 per hour surcharge. That would raise charges for Internet access by an additional \$2.00 per hour. Quite a change from what has become the defacto standard price point of \$19.95 for unlimited monthly use.

In a Dec. 24th decision, Federal regulators, however, would only say that it will study how to separate Internet and data traffic from voice calls to relieve congestion on the phone system. A final ruling is not expected until May.

■ **What the telephone companies are really concerned about is Internet telephony.** Phoning over the Internet allows customers to circumvent long distance rates and the software is mostly free! All you need is an off-the-shelf multimedia computer. If it catches on, local phone companies stand to lose access fees now paid by LD companies.

So far, however, the voice quality of Internet telephony leaves much to be desired and its half duplex operation permits only one person to speak at a time. Full duplex sound cards are available, however.

A new H.323 standard proposed by Lucent, Intel and Microsoft permits different systems to talk with one another. Netscape, CompuServe, Microsoft, America Online and AT&T have all announced plans to enter the Internet phone market.

WASHINGTON WHISPERS

■ **The Supreme Court will start hearing arguments on Internet indecent material** in March. Tacked on the Telecom Reform Act of 1996, the Communications Decency Act makes it a crime to transmit indecent material to minors. Federal courts blocked CDA enforcement.

■ **New federal rules have gone into effect which permit the export of stronger encryption schemes.** These products permit secure transfer of information such as credit card numbers over the Internet. Under the new rules, companies making encryption products can apply immediately for a six month's export permit. Control of encryption schemes has also been transferred from the State Dept. to the Commerce Dept. which will establish a

special team to insure that the guidelines are being followed. The rules require that the "electronic key" to unlock the any encryption be available to the law enforcement. To cut down on organized crime or terrorism, the Justice Dept. wants to be able to monitor any electronic transfer of information.

■ **The FCC has now given MCI the right to offer its AskyB** (American Sky Broadcasting) Direct Broadcast Satellite programming even though strongly opposed by the cable industry. It should get underway in late 1997 or early 1998. MCI was awarded the 28-channel DBS slot at auction a year ago when it bid \$682.5 million for the last available national orbital slot. AskyB intends to strip cable of its biggest advantage by offering local broadcasts.

■ **Cable companies continue to lose market share as DBS grows.** All the big companies (such as TCI, Cablevision, Cox Communications) are losing money. DBS operators, DirecTV and USSB claim more than 2 million subscribers and newcomer EchoStar has 250,000.

So far cable operators have failed to deliver the fancy stuff they promised: interactive cable-TV, high speed Internet access using cable modems, digital set-top boxes, "500 channels" and telephone service over cable lines. They say it is still coming.

As a general rule, however, cable operators are adding channels, but not many. The reason? First, cable is aware of the huge channel capacity of DBS. Second, there are the "rate pass along provisions of the going-forward rules."

Under these FCC rules, operators can pass much of the cost of new program services to their customers. Cable companies can add up to six channels and build 20¢ per channel into their rate base, plus 30¢ extra to cover program expenses (license fees), a total of \$1.50. Next year they'll be able to add a channel and collect 20¢ more.

Question. Did you get six extra cable channels this past year ...and did your rate for basic service go up \$1.50? Now you know why!

Two of the newest and most publicized cable channels are not even available to most of the country but they are to DBS. Last month Turner Broadcasting Co. added CNN/SI (as in Sports Illustrated) and Walt Disney added ESPNEWS. Both have an identical 24-hour sports news format ...and both seek to take advantage of familiar

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previous successes (i.e. CNN and ESPN)

■ **Last summer, the FCC closed down its twelve long range (HF) monitoring stations and six of its District Offices.** The long range monitoring network was replaced with remotely controlled advanced, automated equipment operated from the FCC/CIB Operations Center in Columbia, Maryland.

To compensate for the loss of the local field offices, the FCC installed a new, nationwide centralized toll-free call center in Gettysburg, PA which began service on a regional basis last June. More states were added as employees were trained and software and hardware tested.

The telephone number for the FCC's National Call Center is 1-888-225-5322 (1-888-CALL FCC). It is staffed Monday through Friday from 8 a.m. to 4 p.m. The National Call Center had its official opening last fall and service is expected to expand nationwide by Spring 1997.

The call center handles just about every type of telecommunications call imaginable. When Commission subject matter experts must be consulted, the call is electronically transferred from the call center to FCC Washington Headquarters at no additional cost to the caller.

AMATEUR RADIO

■ **A move is underway by Weak Signal CW, SSB, EME, non-FM and Satellite enthusiasts** to legally protect certain sub-bands in the 50 MHz and through 13cm ham bands from intrusion by FM repeater, packet and ATV interests.

The weak sign community is concerned that with the recent *Memorandum of Understanding* between the ARRL and the National Frequency Coordinators' Council (NFCC) that the previous so-called "gentleman's agreements" may no longer be honored. There is currently protection for CW only in the 6m (50.0-50.1 MHz) and 2m (144.0-144.1) bands

We understand a Petition for Rulemaking is in the works that will ask for rules declaring that FM Repeaters, Packet Radio and ATV may not use the following bands:

6m	50.0-51.0 MHz
2m	144.0-144.6, & 145.8-146.0
1.25m	222.00-222.25
70cm	432.0-433.0, & 435.0-438.0
33cm	902.0-903.0
23cm	1260-1270, 1295-1300

13cm 2303-2305, 2400-2410, & 2430-2438 MHz.

Weak signal operators say they while their activity is in a minority in the Amateur Community, they provide valuable data on Radio Wave Propagation, Experimental Techniques and New Technologies, and should be afforded protection from interference from incompatible modes.

The band segments were chosen based on the current ARRL band plans. The bands above 13cm were not included due to the lack of incompatible modes there currently.

■ **The European Space Agency (ESA) now says their next flight of the Ariane 5 booster,** Ariane 502 is being delayed three months until early July. AMSAT's Phase 3-D International amateur radio satellite is manifested on Ariane 502.

AMSAT-NA president Bill Tynan W3XO welcomed the news saying that "It gives us a definite goal to shoot for in our preparations of the Phase 3-D spacecraft. However, every month the launch is pushed back means more funds are needed."

Bill noted that a letter is currently going out to all AMSAT-NA members asking for additional contributions to the Project. He emphasized that "It is particularly important to the successful completion and launch of Phase 3-D, that recipients of this letter respond as generously as they can."

■ **Digital Journal to cease publication!** Beginning with the January 1997 issue, **Digital Journal**, published by the **International Digital Radio Association** was to have switched to a bimonthly format rather than being a monthly magazine. Reason? Advertising revenue has taken a drastic plunge in volume.

IDRA's Paul Richter, W4ZB wrote their membership in early December that "There is a severe economic depression in the commercial side of the ham radio world. Unfortunately, the manufacturers who specialize in digital gear seem to have suffered the most. Secondly, membership revenue declined as well. The renewal rates are far too low. Members are dropping out as fast as our extensive recruiting efforts bring in new ones. Perhaps, part of this phenomenon traces directly to the presence of the Internet."

The day after Christmas, the word came via Jim Mortensen's N2HOS web page that the Digital Journal would be ceasing publication altogether! (URL is <http://www.n2hos.com/digital>)

"Volume 45, Number 1 will soon be a collector's item," he said. "It is the first issue in the 45th year of Journal history ...and it is, from all indications, the last issue ever. Those of us involved in the production of this magazine see no alternative but to shut down now. ...There are simply no funds for future issues. ...The phone and fax numbers at IDRA headquarters will no longer be in service. Please address all correspondence to the IDRA at P.O. Box 2550, Goldenrod, FL 32733. We will try to respond in a reasonable time, but please be patient."

■ The Dec. 16th Los Angeles Times newspaper carried an unusually long (four columns wide) feature story on Richard Burton, ex-WB6JAC complete with two photographs. Burton is "...the only person ever to go to jail for talking on ham frequencies without a license..." After being denied a license for 15 years, it seems that Burton appeared at a VE session last September and passed the necessary exams.

Even though he was not supposed to get a license, he was issued KF6GKS. As soon as red-faced FCC officials in Gettysburg, PA realized who he was, they revoked it.

Ham radio is an obsession with Burton. "Not only is he the only amateur operator to be sentenced to federal prison for talking on the radio, he's been locked up twice for the same offense."

Burton, 53, has been at odds with the FCC since 1981 when officials yanked his first ham radio license after he was caught cursing on the air. He kept on talking, however, and that landed him in federal prison for 6½ months.

When his probation ended in 1989, he took the test for a new license. But before the FCC could act on the application, government investigators caught him illegally on-the-air again. This cost him \$2,000 and another year's probation. In 1993 he was again caught on the air and sentenced to another seven months in jail.

He was issued KF6GKS last fall because the VE team did not know who he was. And the FCC's computer which should have sifted out the application, did not. It seems that he used a different mailing address and omitted his middle initial.

But that apparently is not the end of the story. The article says that Burton has now gone back to his old habit of broadcasting without a license. And he could end up back in prison for a third visit.

HF Band Use Report Released

The *National Telecommunications and Information Administration* has released a new study on high frequency band use. NTIA is the White House advisor on telecommunications matters. The following is a digested version of those sections of interest to radio amateurs:

1) The 30-30 MHz frequency spectrum has been very important since Marconi's 1901 demonstration of communications across the Atlantic. The most significant feature of propagation in this frequency range is that transmission of useful signals over large distances with low power and simple antennas is possible for many hours of the day. Transmissions are not always reliable because of changing ionospheric conditions which vary daily, seasonally, and over the 11-year sunspot cycle. Until the introduction of submarine cables, microwave links, and satellite communications, nearly all long-distance services depended upon ionospheric propagation.

2) One problem regarding the use of the HF spectrum is that the HF bands have become congested. Interference problems have increased to such an extent that certain HF sub-bands are not useful for high-reliability, high-priority communications. The users of the HF band change their equipment parameters (power antenna, radiation patterns, etc.) to meet operational needs and to accommodate the time-varying changes of the ionosphere.

3) Technology has helped achieve expansion of the very-high frequency (30-300 MHz), ultrahigh frequency (300-3000 MHz) and super high frequency (3-30 GHz) ranges through spectrum-efficient techniques. Even so, the HF band continues to be the most crowded and contentious of all the frequency bands. Radio amateurs, aircraft, ship, international broadcasting, and long-distance commercial communications providers use HF. Conflict emerges when the number of bands assigned for a specific radio service are deemed by ITU members as insufficient or unduly restrictive. The HF band is fully allocated and any gain for one radio service is at another radio service's expense.

4) Little use is made of HF radio systems in the United States and other developed countries for domestic communications. Lesser developed countries still find HF applications cost-effective for some of their domestic radio-communications needs, such as national broadcasting, mobile and fixed point-to-point radio communications. This has led to a conflict over allocating the HF band internationally.

5) In the United States, the HF band is divided into 101 sub-bands including four exclusive Federal bands and 20 exclusive non-Federal bands. Of the 20 exclusive non-Federal Bands (comprising 4,905 kHz or 18% of the HF band) 10 are for the Amateur Services, 3 for the fixed

service, 5 for the land mobile service, 1 for the mobile service, and 1 shared by the fixed and mobile services.

6) The HF spectrum is finite and cannot be expended to accommodate other users or additional radio services. HF operations support numerous public benefits such as public safety, emergency medical assistance and weather observation reporting. There are no current plans to auction any HF spectrum. A significant amount of sharing by other radio services takes place among Federal users.

7) Amateurs have been active in radio since the earliest days. The amateur service is the oldest radio service and pre-dates regulation of radio communications. The amateur service allows its users to provide a unique service to the public while enjoying a popular, technical hobby. Radio amateurs have made significant contributions to the field of radio propagation, HF single-sideband radio, HF data communications systems, packet radio protocols and communications satellite design. Further, amateur radio continues to play an important role in disaster-relief communications where amateurs provide radio-communications independent of the telephone network or other radio services, particularly in the first few days before relief agencies are at the scene and have set up disaster telecommunications services. It is estimated that there are in excess of 650,000 amateur radio operators in the United States and over 2.4 million worldwide. The FCC Master Frequency List does not reflect the hundreds of thousands of U.S. licensed amateurs authorized to operate in the HF amateur bands.

In the HF band, the amateur operator has a choice of narrow frequency bands each with different propagation properties for long-distance communications. The amateur operator can follow the changing maximum usable frequency (MUF) as propagation conditions change in the amateur bands and still be able to communicate. Having a good selection of frequencies is critical to maintain reliable communications for both voice and data operations in the HF band. All U.S. amateur and amateur-satellite allocations in the HF band are allocated on a primary basis for exclusive non-Federal use only.

8) In recent years, many developed countries have reduced fixed service operations in the HF band and rely on satellite, microwave, and submarine cables for long distance communications to support their news services, radio-telexes and diplomatic communications. However, HF communications still remains to support these functions, but as backup communications systems. At recent WRC's [World Radio Conferences], more and more HF spectrum from the fixed service has been re-allocated to broadcasting, aeronautical mobile, and maritime mobile services. As this trend continues, lesser developed countries have become concerned about the amount of HF spectrum available in the fixed services for their domestic communications.

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ARRL on Visiting Foreign Hams

On Dec. 13th, the American Radio Relay League filed formal comments on the FCC's proposal to **Authorize Visiting Foreign Amateur Operators to Operate Stations in the United States**. (WT Docket No. 96-188.)

The FCC issued a Notice of Proposed Rulemaking last September in which it proposes to implement two existing systems which would simplify amateur operation in the U.S. by visiting foreign radio amateurs. The NPRM was based on a petition for rule making, RM-8677 filed by the ARRL on July 19, 1996. The two ways that foreign amateurs could be allowed to operate their ham radio equipment in the United States while on short visits are:

The Inter-American Convention on an **International Amateur Radio Permit** (IARP Convention):

allows radio amateurs who are citizens of and licensed in countries who are a party to the convention to obtain an IARP to operate temporarily in another country party to the convention without delay and the burden of obtaining a license in the visited country.

European Conference of Postal and Telecommunications Administrations (CEPT Recommendation):

permits issuance of a CEPT-endorsed license by a radio amateur's country of citizenship. The CEPT license holder can operate an amateur station temporarily in any participating CEPT country without additional licensing or permit.

- The ARRL was very pleased with the NPRM since it "...would permit the widest flexibility in accommodation of visiting foreign radio amateurs, and thus encourage other countries to participate reciprocally, which benefits U.S. radio amateurs who travel internationally." The League added that it also would reduce the FCC's administrative burden by eliminating the need to issue reciprocal permits to qualified holders of CEPT and IARP licenses or permits when visiting the U.S. or its possessions.

- While the United States is a signatory to the IARP Convention, the U.S. is not yet a party to the CEPT Recommendation. The FCC has, however, endorsed participation in CEPT Recommendation T/R 61-01 which allows the Amateur radio licenses of non-CEPT countries to compare to CEPT Class 1 and 2 licenses. The ARRL believes that the Class 1 license parallels our Amateur Extra Class and the Class 2 to the Technician license. U.S. participation is being handled through the Dept. of State.

- The ARRL said there is ample statutory authorization for the recognition by the U.S. of both CEPT and IARP documents. Section 303(l)(3) of the Communications Act permits foreign radioamateurs "...to operate his amateur radio station licensed by his government in the United States, its possessions, and the Commonwealth of Puerto Rico provided there is in effect a multilateral or bilateral agreement, to which the United States and the alien's government are parties, for such operation on a reciprocal basis by United States amateur radio operators."

- The League said that it thought the limitation that non-U.S. citizens could operate under a CEPT license for a period not longer than 180 days within the immediately preceding five year period was unnecessarily restrictive, unjustifiable and would be difficult to enforce. The ARRL had asked that an IARP be valid for up to one year from the date of arrival by the holder in the U.S. since this time frame is clearly stated by the IARP Convention. "The final rules adopted by the Commission should simply specify that a CEPT license or an IARP shall be valid for use by the holder for a period up to one year, but in no event longer than the term of the amateur license of the holder issued by his or her home country."

- The League added that "...the Commission does not permit alien reciprocal permit holders to operate [specialized amateur systems such as repeater, beacon or auxiliary stations since these are generally more permanent and require coordination and] ...it is not expected that the rules would accommodate CEPT or IARP holders to a different extent." The ARRL believes that the FCC should not be mistaken about the sophistication of possible amateur operations to be conducted by visiting foreign amateurs such as complex microwave experimentation or international radiosport competitions.

- The Commission expressed some reservation that there would be no database of amateurs operating under CEPT or IARP licenses at any given time. "Under the procedures proposed herein, operation would be authorized by rule rather than by the grant of a license or permit." The League's response was "The station identification rules are sufficient means of allowing the Amateur Service to identify such licensees for any purpose, and the possession of a CEPT or IARP license allows the verification of operating authority for any enforcement purposes. The maintenance of a database would seem unnecessary, as international callsign listings are readily available in compact disk or paper forms to verify operator information."

- In an obvious attempt to preclude future U.S. Amateur Service licensing by rule, the ARRL added that "...foreign amateurs are not 'authorized by rule' as the Commission states, they are, rather, authorized by the grant of a license or permit issued by their own government. That document is recognized in the United States as the temporary equivalent, under certain conditions, of a license document. No amateur station is 'authorized by rule' in the same sense as the Citizens Radio Service, or as Aviation and Marine stations are now licensed, and they would not be under the NPRM proposal."

- The ARRL acknowledged that the FCC would not be issuing CEPT or IARP documents. "The United States Dept. of State would have the primary jurisdiction to issue such documents, but the League has offered to serve in a volunteer capacity to provide the same service without administrative cost to the government and it is anticipated that the Dept. of State may accept the offer."